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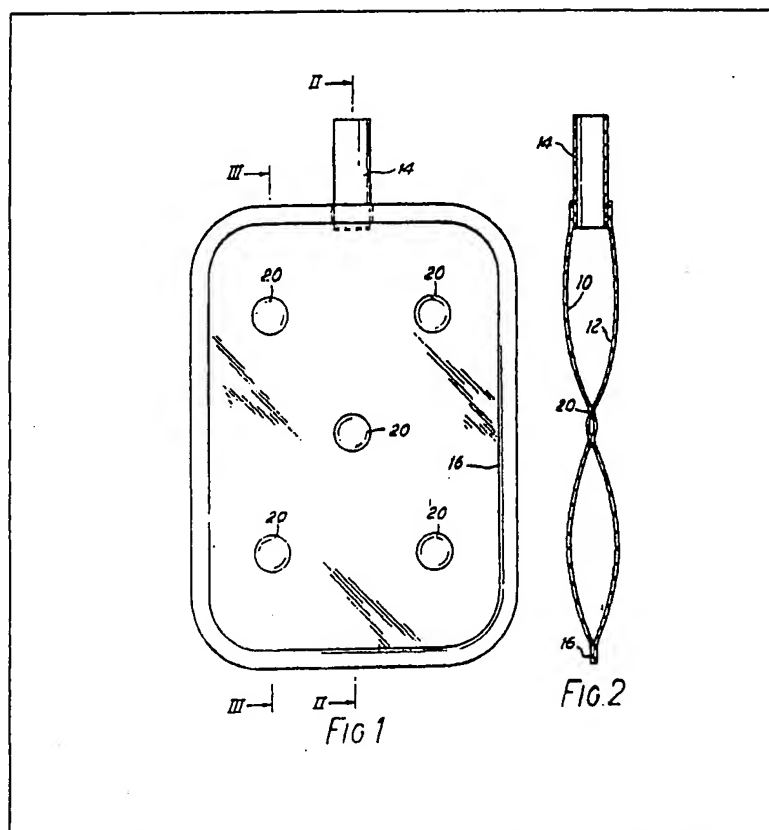
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(54) Drainage bag

(57) A bag e.g. for wear as a urine collection bag has front and rear walls 10, 12 of plastics material welded together to form a peripheral seam 16. The front and rear walls are further joined together by closed loop welds 20 inside the area enclosed by the peripheral seam. The bag preferably has 3-10 closed loop welds; these welds prevent bulging of the bag when it is full of liquid.



The drawings originally filed were informal and the print here reproduced is taken from a later filed formal copy.

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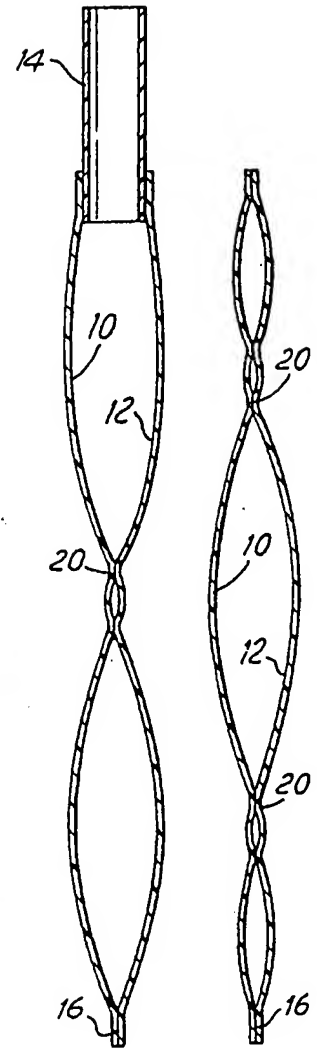
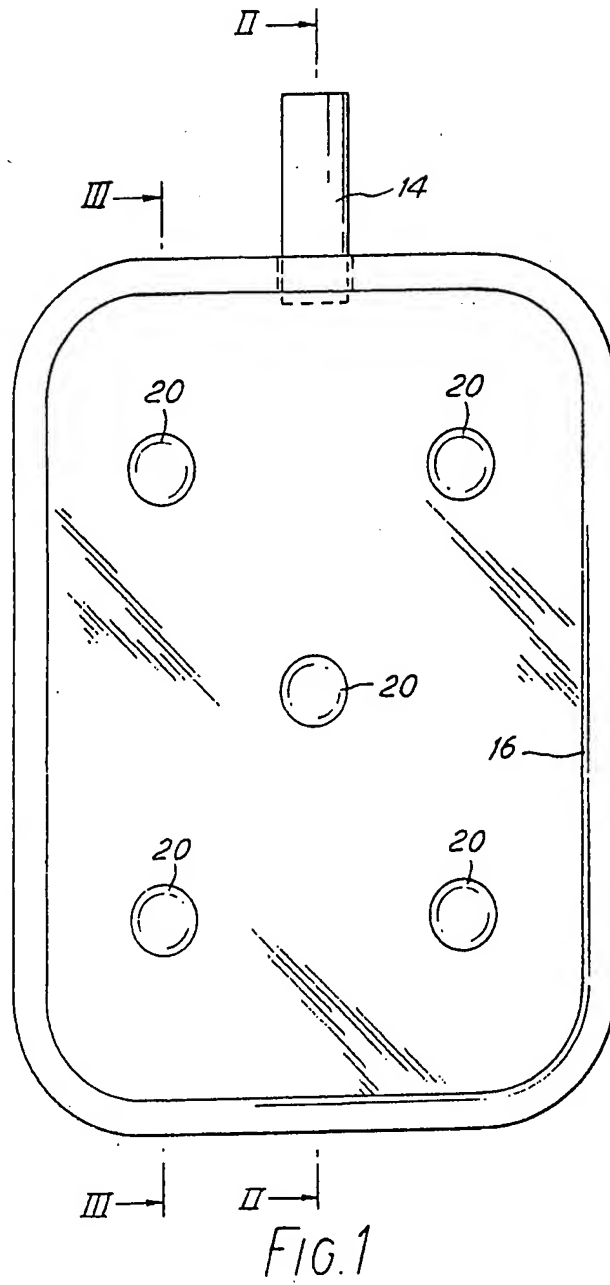


FIG. 2 FIG. 3

## SPECIFICATION

## Drainage bag

5 This invention relates to a drainage bag. Such bags may be used as urine night drainage bags or for draining secretions from wounds, or liquids from a patient's body.

10 It would be desirable if a drainage bag of plastics material could be fabricated easily and inexpensively from two overlying sheets of plastics material in such a way that the bag does not, when full of liquid, form itself into a pouch of substantial front-to-rear thickness.

15 From the point of view of concealment on a wearer, it is greatly preferable if the bag when full is relatively flat so it can remain unnoticed beneath clothing.

20 According to the present invention, we provide a drainage bag made from two overlaid sheets of weldable plastics material wherein, in one welding operation, the bag peripheral seam is welded as well as the front and rear walls being welded together by closed loop

25 welds so as to define relatively uniformly distributed connections between the front and rear walls tending to hold the bag against undue pouching.

30 In a preferred embodiment of the invention the closed loop welds are circular. It will be appreciated that each such weld causes a reduction in the bag's liquid capacity compared to that if no weld were present. The present Applicants have found that an acceptable compromise between limiting the bag

35 maximum thickness when full of liquid, and limiting its maximum volume capacity is achieved when the closed loop welds are between 3 and 10 in number and each encircle an area of between one and two-and-a-half square centimetres.

40 The invention will be better understood from the following particular description of a non-limiting example given with reference to the accompanying drawing in which:—

*Figure 1* is a front view of one example of drainage bag according to the invention;

*Figures 2 and 3* are cross-sections on the lines II-II and III-III in *Fig. 1*

50 The drainage bag illustrated in *Figs. 1-3* is made from two overlaid sheets 10 and 12 of weldable plastics material, having an inlet pipe suitably secured in an upper edge thereof. The inlet pipe is indicated at 14.

55 As is conventional, the bag is bounded by a peripheral weld 16 which joins the two overlaid sheets together. Although not shown, an outlet tap may if desired be included in a lower portion of the bag.

60 In order to prevent undue bulging of the bag when it is full of liquid, the front and rear walls are welded together by closed loop welds 20, which are distributed over the area of the sheets. As shown, five such welds are

65 included, of circular configuration. It will be

appreciated that this construction reduces the maximum capacity of the bag for liquid, but the reduction is acceptable and there is in consequence of the closed loop welds a bag

70 which when filled with liquid is maintained reasonably flat and therefore is not obtrusive when worn under clothing.

Of course, without departing from the invention, changes may be made. For example, 75 the closed loop welds need not be circular. They could be oval, or rectangular, or other suitable configuration. It is preferred that the area enclosed by the closed loop welds is in total less than X% of the total area of the flat

80 bag within the peripheral weld.

As a preferred feature of the invention, in a case where circular welds are used, the diameter of these welds can be arranged to steadily increase as one moves further away from

85 the peripheral weld 16. In this way, a greater restraint upon expansion due to filling with liquid is achieved in the areas far from the peripheral weld 16, compared to the restraint achieved near to the bag edges.

90 An advantage of the invention is that by providing a selected number of closed loop welds in selected positions, one can design a bag to be of a chosen and substantially uniform thickness across its width and over its

95 height, while still retaining a desirable amount of flexibility.

## CLAIMS

1. A drainage bag made from two overlaid

100 sheets of weldable plastics material wherein, in one welding operation, the bag peripheral seam is welded as well as the front and rear walls being welded together by closed loop

105 welds so as to define relatively uniformly distributed connections between the front and rear walls tending to hold the bag against undue pouching.

2. A bag according to claim 1 in which the closed loop welds are circular.

110 3. A bag according to claim 2 in which the diameter of the welds increases with the distance of the weld centres from the periphery of the bag.

4. A bag according to claim 1 in which

115 the area within the closed loop welds varies according to the distance of the weld from the periphery of the bag.